Chapter 3
THE EMERGENCY INCIDENT RESPONSE

3.1 INTRODUCTION

Beginning late Thursday evening, Feb. 20, 2003, Rhode Island's fire/rescue, emergency medical services and law enforcement agencies were challenged by the largest life loss fire incident in the state's history. In a matter of minutes The Station nightclub became engulfed in flames, producing both a major mass fatality and mass casualty incident that drew upon the resources of virtually every fire and emergency medical services (EMS) provider in the State, a variety of law enforcement agencies and others.

The fire and resulting structure loss was principally limited to the single story, wood framed, unsprinklered, public occupancy, commercial building of relatively modest size [approximately 412 m^2 (4484 ft^2)]. Several vehicles in the vicinity of the building were also lost or damaged by the fire. As described in Chapter 1, the structure stood facing north, at the left rear of a roughly rectangular corner lot at the southwest intersection of Cowesett Avenue and Kulas Road. The corner lot had been carved from a steeply graded hillside and then leveled and re-graded to provide relatively level access along the length of the Cowesett Avenue frontage, while on the Kulas Road (east) side, the grade rose away to the rear and southeast corner of the lot from Cowesett Avenue at a significant incline. The south or back line and the west side property line were covered by relatively heavy brush comprised of various small trees, bushes and ground cover and accumulated snow pack. The length of the rear property line was also contained and obstructed by a privacy style fence.

The site's contours maximized the Cowesett Avenue access and parking (north half of the lot) and placed the structure lower than adjacent perimeter grades at the rear on the east and south (back) sides. The structure's proximity to the berm-like elevated boundary on the east and along the south/back side property line limited tactical operations at the rear and southeast corner of the building. This area also provided no personnel access/egress points to the structure on either side. The building's placement on the lot and its irregular configuration, the higher graded perimeters, and the narrow distance between firefighters and the southeast side and south facing rear walls of the structure presented a risk to fire ground operations due to the rapidly deteriorating conditions, including the possibility the building would collapse. The east side of the lot along Kulas Road also presented an electrocution hazard risk to fire ground operations due to overhead electrical lines and a pole-mounted transformer at the service drop to the structure.

The northeast front facing side, the full front (north facing) and west side of the structure each contained slightly elevated entrance ways into the building and were accessible from the relatively level parking areas extending from the building to the north and west.

In other respects, the structure presented no obvious hazards beyond those normally associated with comparable occupancies nor were there any other nearby at-risk structural exposures. However, vehicle fire exposure risks filled the parking area, in the front of and extending from the structure to the west. This area contained numerous vehicles of various types including a tour bus, media van, cars and trucks, as well as residual snow banks/piles from previous plowing. Although the tour bus was removed during the early minutes of the fire, other vehicles parked near the northeast side (adjacent to the single door bar area exit) in the immediate proximity of the building were exposed to sufficient radiant heat to produce

secondary ignitions, requiring extinguishment and producing additional vehicle fire losses from the incident.

The human toll from the fire was far more devastating. Within only minutes of the pyrotechnic display ignitions, 96 people perished, unable to egress safely ahead of the intense and fast moving fire. Most of the fatalities occurred in the moments prior to the arrival of the first emergency services units. Four more died within days, subsequent to hospitalization, raising the final fatality count to 100.

More than 200 other victims, many seriously hurt from burns, respiratory insult and physical trauma, were provided emergency care and triaged at the scene, then transported to hospitals across the State. This major mass casualty incident (MCI) effectively concluded its emergency on-scene and pre-hospital care operation (casualty collection, triage and transport) phase in less than two hours from the fire's onset. The operation was accomplished expeditiously through the combined efforts of dozens of agencies (some 60 EMS units and untold number of individual care providers), notwithstanding the communications interoperability challenges experienced by many of the responding units.

Subsequent to the fire's suppression and once the scene was cleared of casualties, the next major phase began -- the recovery and identification of the fatality remains. These activities opened the opportunity for police, fire investigators and others to access the primary loss area to collect and document information in support of their investigations.

The State Fire Marshal and Medical Examiner's personnel coordinated the recovery of the dead. Fire Department personnel were utilized to collect individuals' remains and to move them to a holding area at the northwest corner of the lot while awaiting transport. The respective investigative teams documented the fire scene and the body recoveries, attempting to identify the deceased as early on in the process as possible. This phase of the operation continued until the recovery and removal of the last victims by late afternoon, on Friday, Feb. 21. The scene had been secured with temporary fencing and site control transferred to the law enforcement authorities conducting the follow on investigations.

Fire department on-scene operations concluded with the last 'stand-by' engine company returning to quarters some 24 hours after the ignition of the pyrotechnics that came to produce the fourth deadliest public assembly fire loss in the Nation's history.

3.2 THE WEST WARWICK FIRE DEPARTMENT

The description of the West Warwick Fire Department (WWFD) provided in the DHS/ODP After-action Report (Annex A, p. A-1) [1] forms the basis of the information summarized here. The WWFD provided both emergency medical and fire suppression services to a community of approximately 30,000. West Warwick is situated geographically at about the center of the state, and comprises a primary response area of just under eight square miles. The Department operated from four stations with a combined response capability of four engine companies, one tower/ladder company, two rescue-ambulances and one special hazards unit or squad-type apparatus with a light tower.

The Department's 66 uniformed personnel were divided into four rotating platoons typically comprised of not less than one battalion chief and 12 other officers and firefighters per shift. An officer and firefighter each staffed Engines 1, 3 and 4. An officer and firefighter cross-staffed Ladder 1 and the special hazards unit and two firefighter/EMT-C's cross-staffed Engine 2 and Rescue (ambulance) 2, while two firefighter/EMT-C's staffed Rescue (ambulance) 1. (Note: cross staffing indicates the personnel responded on either of the indicated apparatus depending on the nature of the assignment.)

At the time of the fire, the WWFD's unit staffing (as noted above) was about half the minimum complement of engine and truck company personnel suggested in the applicable National Fire Protection Association (NFPA) Standards (1500 [4] and 1710 [5] respectively). The Standards advocate a minimum crew of four members operating from each type of apparatus. Unit staffing levels directly affect the firefighting crew's tactical performance capabilities, the speed at and duration of which they can be relied upon to accomplish various tasks, such as establishing water supply, advancing hand lines, or effecting rescues, as well as the overall scope and effectiveness of the tactical intervention strategy being applied in a given situation.

The WWFD routinely relied upon substantial mutual-aid augmentation [principally from the Warwick Fire Department (WFD) and the Coventry Fire Department (CFD)] to respond to its working structure fires due in large part to its below standard staffing levels. In general, the additional response times of mutual aid assets can delay the effective implementation of the Incident Command (IC) based strategies and tactics necessary to successfully mitigate significant incidents. In this case, however, the large loss of life was not connected to any delay in establishing the Incident Command.

3.3 THE FIRE AND EMERGENCY MEDICAL SERVICES RESPONSE

A "structure fire with person(s) trapped" type incident by its nature produces a situation where occupant rescue and fire suppression activities are competing for immediate priority attention. The response to this incident involved major concurrent tactical challenges (the fire suppression, the mass casualty management, scene control and traffic management and the subsequent victim identification, community support, and incident investigation) requiring concurrent intervention activities by fire suppression, EMS, law enforcement personnel and others from a plethora of agencies.

The following overview is intended to provide a general description of the incident's progression noting key tactical challenges and how they were addressed. The overview timeline (Fig. 2-1a and 2-1b, and Table 2-1) summarize the sequence of events that are described in more detail in this chapter. Invaluable contributions were made by literally hundreds of service providers from a host of agencies working in common cause, even though there were problems in the response.

3.3.1 The Initial Alarm

On Feb. 20, 2003 at approximately 11:09 p.m., the West Warwick Police Department dispatcher received a radio call from an off duty officer at the scene stating there was a fire at The Station nightclub located at 211 Cowesett Avenue. Within seconds the State's 911 call center also began receiving calls for help and relayed the alarm to West Warwick's fire dispatcher who initiated a standard structure fire response at approximately 11:10 p.m.

The duty chief, four engine companies, the tower/ladder company and a rescue-ambulance responded to the initial alarm. Calls continued to come in, indicating the extraordinary severity of the fire and that numerous people were trapped and injured, which prompted the assignment of additional rescue-ambulances and other assets from both the adjoining jurisdictions and across the state.

At approximately six minutes into the fire, and within moments of his arrival, the WWFD's on-duty chief (acting Battalion 1) requested the activation of a task force from the nearby Warwick Fire Department for mutual aid. Warwick Fire Department units monitoring the alarm traffic and anticipating the assignment went "in-route" when dispatched at approximately 11:14 p.m. The WFD response was comprised of an augmented task force including a chief officer, 3 engines, 1 truck and 2 rescue-ambulances. The WWFD

on-duty chief then requested 12 rescue-ambulances to be dispatched in addition to those already responding. The dispatchers received multiple alarm/mutual aid requests as the incident progressed.

3.3.2 The Incident Command

The initial Incident Command (IC) was established with the arrival of the WWFD on-duty Chief (acting Battalion 1) who positioned his command vehicle at the west end of the alarm assignment structure on Cowesett Avenue.

From this location the IC had a fair view of the front of the burning structure, the large number of casualties disbursed among the crowds of other people in the parking area in front of The Station and along both sides of the roadway to the east, the Kulas Road intersection with Cowesett Avenue, and some of the area on the street in front of the Cowesett Inn. As one scanned from a southerly direction to the east the following could be seen:

- directly south -
    - the immediate parking area in front of the building with numerous at-risk vehicle exposures, the at-risk structure with heavy fire showing, and the steep grade incline and wooded area to the rear of the lot
- to the southeast –
    - at a distance, the rise of Kulas Road up-grade away from Cowesett Avenue with adjacent utility poles and overhead wires with a transformer
    - in the near ground, the approximate length and width of the parking area and vehicle loading
- looking east -
    - on the right of Cowesett Avenue, the length of the street section in front of The Station
    - on the left, the area in front of and to the west side parking areas of the Cowesett Inn

The fire ground scene was chaotic. The fire was rapidly enveloping the structure with a large collection of victims trapped at the main entrance and an unknown number still likely to be in the building. Dozens of victims with obvious injuries were scattered across the operational area, including the parking lot and along the street looking east toward the Inn.

The concurrent and emerging operational objectives of rescuing victims, providing mass casualty care/transport and mounting an attack to extinguish the fire were apparent to the IC who immediately requested additional assistance.

The IC directed WWFD's Engine 2 to lay-in supply lines from the hydrant in front of the Cowesett Inn and to support the first due unit's (Engine 4) suppression operations. During these initial activities, the primary command focus was to establish a water supply and accomplish as many victim rescues as possible given the rapidly deteriorating fire conditions.

At 11:22 p.m., less than 14 minutes into the fire, WWFD's Chief of the Department notified dispatch that he was responding. Moments later while in route, he ordered the formal activation of the Mass Casualty Incident (MCI) component of the mutual aid plan.

Upon his arrival, approximately six minutes later, he conducted a brief assessment of the unfolding operations and moved the position of the IC forward of the original command location, in the parking lot

at the front of the building. Also recognizing the magnitude of the incident's casualties, the Chief immediately requested any available rescue-ambulance to respond. He specifically requested 15 additional units beyond those units previously deployed and those currently responding to the initial IC's request for "any available unit." Although the Chief did not formally announce his assumption of command or the new IC location his presence became obvious to the dispatchers and the personnel already engaged in rescue and suppression operations at the scene.

The IC (WWFD Chief) was joined in short order by the department chiefs from the Warwick FD and the Cranston FD at the newly positioned IC area at the front of the building. From this vantage point the command group could better observe and direct the rescue efforts at the entranceway and the fire attack. The chiefs from the mutual aid departments functioned as a command group to support the IC and to direct the assignment of their respective department assets.

Upon the arrival of the Chief from the Coventry FD the IC requested that he assess and report on the unfolding EMS activities at and near the Cowesett Inn. In this role the Coventry Chief became the EMS liaison to the IC for the remainder of those operations.

Although the IC group did not adopt a traditional IC structure or paradigm, it functioned in a fashion that was, in effect, driven by the unprecedented magnitude of the mutual aid response and the huge coordination challenge presented by the high volume of communications necessary for the multiple responding units. As discussed in the DHS/ODP After-action Report (Annex A, p. A-21) [1], the respective chiefs relayed commands to their dispatchers and arriving units on their respective radio channels, as no common channel was available to effectively handle the volume of radio traffic emanating from the scene.

The resulting fragmentation of vital communications posed substantial challenges to area dispatchers who were trying to satisfy the numerous "any available unit" requests from their respective assets already at the scene. The generalized requests for "any available units" initiated to various dispatch centers by the mutual aid companies produced confusion regarding which units had already responded and which were still available. Since units were being self-deployed, dispatchers had to poll departments to see if they could respond rather than relying on the call-ups driven by the mutual aid system's resource cascade. The communications difficulties also led to Basic Life Safety (BLS) patients being transported by Advanced Life Safety (ALS) units on a first-come-first-served basis, which is a less effective use of resources. From a command/operations perspective the incident could have been better managed. In spite of this situation, all the critical requirements were achieved with the fire being extinguished in little over an hour and the evacuation of the last casualty in less than two hours from the initiation of the incident.

At approximately 4 am the Command group met at the Cowesett Inn to plan the demobilization of the incident. This effort prioritized the actions necessary to close out the on-scene operations, identified the additional equipment and various staff resources needed to accomplish a wide range of related tasks both at the scene and elsewhere, and insured the necessary notification and coordination with other participating agency personnel. Principal among these activities was the effort to structure the process and staff the victim recovery activities that would conclude the fire ground operations.

The absence of a centralized communications capability and record of the IC operations during this incident precludes a meaningful objective review of those activities. However, the assets needed, both personnel and apparatus, did materialize in a timely fashion. Given the time needed to collect, triage and care for the casualties, these services were capably provided by the initial mutual aid responders.

3.3.3 Fire Attack

The first fire apparatus, WWFD Engine 4 and Tower/ladder 1, were located less than 800 m (half a mile) west of the nightclub on Cowesett Avenue and arrived on scene within three minutes of dispatch and approximately 5 ½ minutes into the fire. On arrival Engine 4 reported "heavy fire" conditions at the scene, as flames were visible at multiple locations and heavy volumes of thick black smoke were emanating from various points of the structure. Engine 4 was able to pull into the parking lot and positioned almost directly in front (the north side) of the building, a few meters west of the main entrance, while Tower/ladder 1 passed the parking lot and turned south on Kulas Road to position on the upgrade, east side of the structure. The location of WWFD Tower/ladder 1 was tactically compromised by pole mounted power lines extending parallel along Kulas Road between the blazing structure and the apparatus.

Within moments of their arrival, Engine 4's crew with assistance of Tower/ladder 1's personnel and bystanders, had extended a 1 ¾" hand line from the unit and advanced to the main entrance of the club. The fire conditions were deteriorating rapidly. Significant volumes of fire were enveloping the building and heavy smoke was billowing from the main entrance, secondary exits, and knocked out windows in the sunroom and main bar area on either side of the main entrance. At the same time, occupants were trying to escape through that main entrance, with tiers of entrapped victims stacked on top of one another in the doorway. As the crew approached, they utilized a 1 ¾" hand line, served by the unit's on board water supply, to retard the fire at this principal egress point. This was to provide the entrapped victims a protective water curtain while units assisted individuals. (It has not been determined how many people may have been rescued during this phase, nor when they may have been removed from the front doorway; however, it was reported [2], without confirmation from the fire department, that one person was pulled from near the bottom of the pile as much as an hour after the fire department arrived on the scene.)

Upon its arrival WWFD Engine 2 laid-in, providing two 3" water supply lines from the hydrant across the street at the corner of Cowesett Avenue and Coit Avenue adjacent to the southeast corner of the Cowesett Inn, to support Engine 4's operations, which had exhausted its on board water supply. Engine 2 was able to enter the parking lot positioning a short distance behind Engine 4. The crew established a supply line to the first arriving unit (WWFD Engine 4) enabling that unit to recharge its previously deployed hand lines once the two supply lines from the hydrant were charged. WWFD personnel were also able to advance additional hand lines and initiate a master stream operation at the front of the structure utilizing Engine 4's deck gun.

When the WWFD Special Hazards unit arrived it was positioned at the northeast corner of the property facing south on Kulas Road directly behind WWFD Tower/ladder 1 and raised the unit's light mast to illuminate the scene. WWFD Engines 3 and 1 were not employed in the suppression operations but were positioned nearby on Cowesett Avenue across the street from the Inn.

WFD Engine 1 laid-in, providing approximately 90 m (300 ft) of 4" supply line from a hydrant on the east side of Kulas Road above the fire ground. They positioned the apparatus facing down-grade (north) in the south bound lane of Kulas Road just above WWFD Tower/ladder 1 and Special Hazards unit at the east side of the lot. The crew initiated a master stream operation with their deck gun from that position to attack the fire to the interior of the building near the main entrance area.

WFD Ladder 1 was the last apparatus to be engaged in the suppression effort. It backed into the parking lot in front of the structure just to the west of the WWFD initial assignments (Engines 4 and 2). Although equipped with a 4" supply line, Ladder 1 did not have an on board pump capability and attempts to begin

master stream operations were initially ineffective due to low water pressure. This operational challenge was overcome by re-routing the supply line to one of the WWFD's engines which then provided the necessary water pressure to establish and maintain an effective master stream

Figure 3-1 shows the layout of the fire ground during the fire attack and suppression activities. The initial attack was mounted by WWFD's first unit, Engine 4, approximately 6 ½ minutes into the fire with the advance of a 1 ¾" line to the main entrance of the structure and the primary victim cache, and continued until the unit's on board water supply was exhausted. While the two, 3" supply lines to the front of the structure were being laid and charged, rescue efforts continued along the building's north face, through both the broken windows and exits. However, these efforts were pursued without the benefit of protective hose lines and were substantially hampered by the rapid fire propagation, radiant heat and heavy volumes of smoke discharge from the structure.

Once the two 3" supply lines to Engine 4 were established approximately 10 minutes after their arrival, an apparatus mounted deck gun/master stream operation was initiated from WWFD's Engine 2 and additional hand lines deployed at the front and to the west side of the structure.

The frontal attack was almost immediately augmented with the arrival of WFD's Engine 1, which had laid its own supply line. Once positioned, Engine 1 began a master stream operation from its deck gun on the east side of the structure and then extended hand lines down the grade to the east side front of the building. These attack lines were most effectively applied to suppress the multiple vehicle fires adjacent to the northeast corner of the structure.

Less than 25 minutes into the incident, the structure was showing fire through the roof in the area of the main bar, which appeared to have substantially self-ventilated or partially collapsed. Shortly thereafter WFD's Ladder 1 was backed into the west side of the parking lot. The unit was provided a 4" supply line from a hydrant located at 198 Narragansett Avenue by Cranston FD's Engine 4. However, due to the extended length of the supply line and the hydrant pressure, this source was not sufficient to produce an effective flow. These efforts were suspended and the supply line was then repositioned to allow WWFD's Engine 4 to initiate pumping operations in support of WFD Ladder 1's elevated master stream operations.

The major section of the main roof collapsed a little more than 45 minutes in to the fire, prompting the IC to initiate an accountability check of the suppression crews. The roll call produced no indication of missing personnel and suppression operations continued.

The sunroom area at the front of the club included a window-wall approximately 9 m (29 ft) long just to the west of the main entrance facing the parking lot. The roofing and structural support for this element of the building's façade collapsed a little more than an hour into the fire, which prompted the IC to initiate another personnel accountability check.

After this second major element of the structure failed, little remained of the building except sections of the exterior walls at the front (primarily in the area of the main entrance which had been the focus of substantial suppression effort). The west and rear walls were heavily damaged, and elements of the nightclub's storage area, food preparation and office areas to the southeast corner of the structure were effectively destroyed although some components of interior compartment separations still remained standing at that end of the structure.

The fire attack continued with the master stream operations knocking down the residual pockets of major fire in the remaining structure while hand lines were used to address areas that were difficult for the

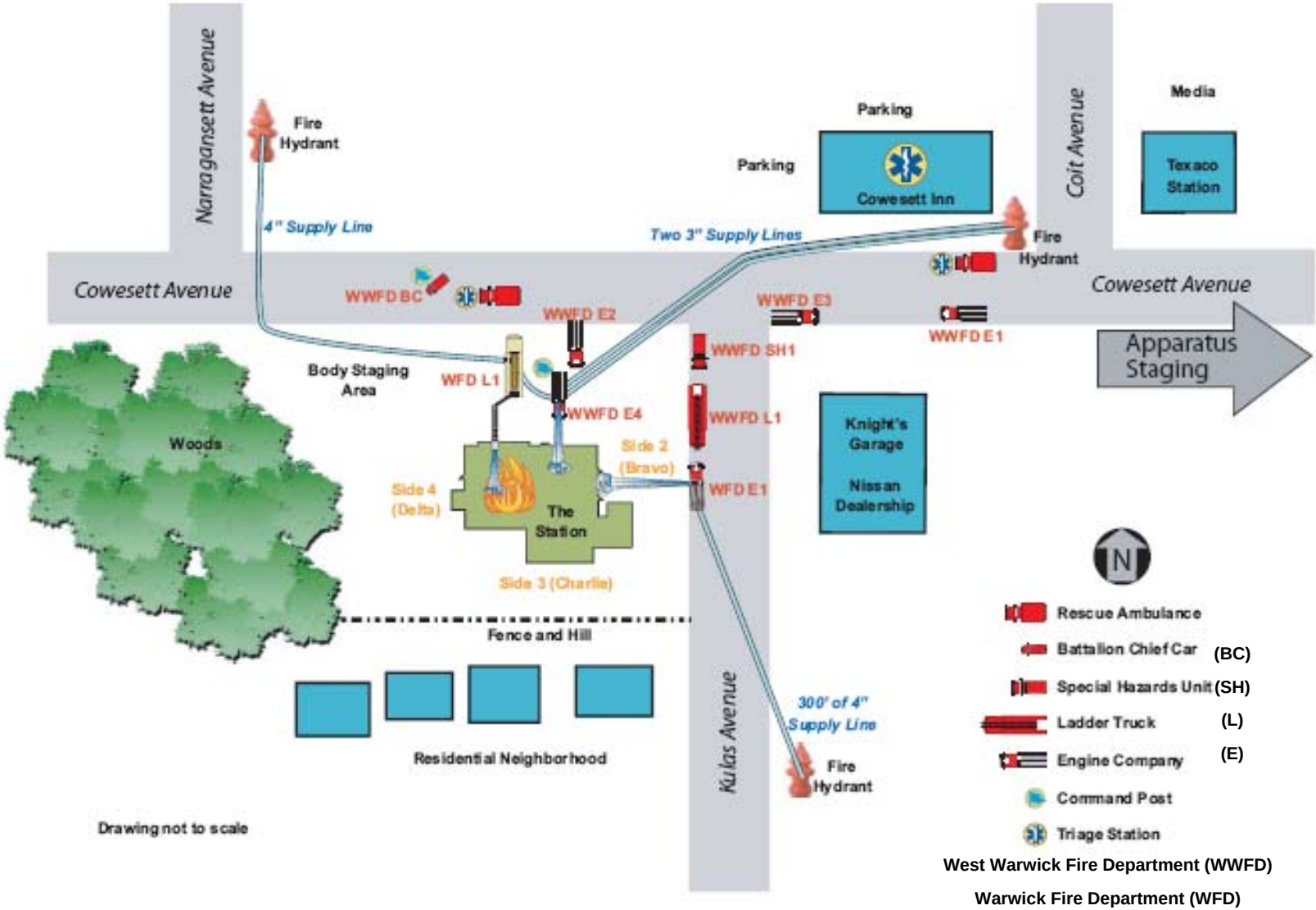

Figure 3-1. Schematic of primary apparatus deployment

master streams to reach. With the structure now heavily damaged (essentially a total loss) and the fire effectively suppressed, the interior of the structure became accessible for the first time in the operation.

No interior fire suppression attack had been possible at the outset of operations due to the untenable conditions and none was initiated until this final stage of the incident. Once able to get inside, suppression personnel checked the area for possible survivors, extinguished the last of the residual fires and wet down hot spots.

At this point the fire suppression and rescue efforts were essentially terminated and operations at the building transitioned into a victim recovery and identification phase that continued until the last of the 96 fatality remains were removed from the structure and transported to the State Medical Examiner's facilities. The final body recovery efforts were completed by late afternoon on Friday, Feb. 21.

No firefighter fatalities occurred during the extinguishment of this fire. Five firefighters were injured: one with a fractured ankle, and four with smoke inhalation, cuts and bruises.

3.3.4 The Water Supply

The incident area had immediate access to a municipal hydrant system to support fire ground operations. Although positioned short distances away (see Figure 3-1), the incident site had expedient access to three hydrants, all of which were utilized.

The first hydrant was located a few dozen meters northeast of the incident site on Cowesett Avenue near the corner of Coit Avenue and in front of the east side of the Cowesett Inn. That hydrant supported two, 3" supply lines to WWFD's Engine 4 while that team attacked the fire from the front of the building in the parking lot a few meters west of the structure's main entrance.

The two other hydrants both provided 4" supply lines to the units they supported respectively. One, at the southeast corner of the site on the opposite side of the Kulas Road incline at about the crest of the grade, provided WFD Engine 1 supply for its master stream and hand line operations. The other was on the east side of Narragansett Avenue to the north and upgrade of the intersection with Cowesett Avenue some distance from the northwest corner of the site. That hydrant supported the master stream operations of WFD Ladder 1 positioned to the west of the two WWFD engines in the parking lot.

The hydrants' proximity to the incident site's northwest, northeast and southeast corners allowed apparatus to lay-in to the fire ground from all three directions. When supported by the pumping operations of the various engine assignments, the water system's pressure and flow was sufficient to sustain the multiple master streams and the numerous hand lines utilized to extinguish the structure and the various vehicle fires.

3.4 MUTUAL AID

Most emergency services providers, and fire departments in particular, develop and operate with the assistance of mutual aid compacts or agreements with neighboring departments to augment their capability to respond to incidents when their assets are committed or otherwise unable to satisfy the community's emergency response requirements. Such compacts are typically designed to rapidly augment the department's staffing or equipment during an emergency when needs exceed their capabilities.

Mutual aid agreements vary widely in scope and content. Some agreements are designed to provide assets as specifically requested while others provide for the routine deployment of another department's

specialized assets such as hazardous materials units, advanced life support (ALS), bomb disposal units, water supply, aerial apparatus or other specialty units when an alarm is initially transmitted. In the latter situation, the mutual aid assets are in effect shared by signatories to the agreements, and are utilized independent of actual jurisdictional or organizational ownership. All agreements benefit the member agencies by providing emergency surge capabilities (staffing, equipment, etc.) from other agencies that would be prohibitively expensive to operate and maintain in each jurisdiction.

While mutual aid arrangements have an obvious practical value, they also have limiting characteristics. Assets which are infrequently used by a department requesting the mutual aid from another may be in use by the department possessing the asset on a regular basis, and therefore unavailable when needed by others. In a wide scope event, there may be more departments in need of specific assets than are available within the member compact. Jurisdictional differences in equipment, tactics and communications systems may also present interoperability challenges to the effective use of mutual aid assets, as was the situation at this incident. Some agreements are relatively small in scope, limited for example, to nearby departments. Others may apply to all the departments in a county -- or as in the case with Rhode Island, cover a multi-state region.

Most agreements center on strategic principles that assure that the specific mutual aid requested will normally come from the nearest jurisdiction with the assets available. Depending on the amount of aid needed (the number, magnitude and/or the diversity of the assets required) the aid is typically moved toward the incident in a fashion that first thins the assets of the area departments nearest the incident and then progressively back-fills or covers those departments providing the initial aid with units from departments further away, providing for successive concentric waves of resource augmentation.

Mutual aid was provided to the West Warwick F.D. and the other fire departments throughout the state in conjunction with the Southern New England Fire Emergency Assistance Plan (SNEFEAP). The plan was designed to augment each department's staffing and equipment capabilities through an anticipated incident severity progression of up to seven alarms beyond the initial assignments. This is designed to be achieved by providing both assets to the scene and back-fill /coverage for the departments providing emergency fire-EMS assistance to others.

The mutual aid support provided to the respective major operational activities at The Station nightclub fire is summarized briefly in the following sections. These sections provide a general overview of the incident's magnitude and complexity and are not intended to identify or chronicle all of the individual contributions that were made.

3.4.1 The Fire Suppression Operations

The Station nightclub fire required only a relatively modest augmentation of the West Warwick Fire Department's available suppression equipment resources to contain and extinguish. Beyond the WWFD's response, this fire required only two additional apparatus from the Warwick Fire Department to augment the direct fire suppression operations at the scene (WFD Engine 1 and Ladder truck 1). The additional units from WFD that were utilized (one engine and one ladder truck) did not exceed WWFD's equipment complement capabilities; WWFD's own similar assets were deployed to the scene but were not utilized in the suppression effort.

The initial WFD task force group dispatched had been supplemented with an additional engine company, rescue-ambulance and special hazards unit at the election of the responding department. Beyond WFD's substantial response of equipment and personnel, Cranston FD and Coventry FD also provided numerous

units and substantial staffing (including approximately 100 firefighters and command officers) to support on-scene operations and to cover WWFD's stations and service area during the incident.

During this stage of operations significant numbers of the officers and staff on the mutual aid units were also deployed to the scene but not involved in direct suppression support. These personnel were primarily employed to provide the critical on-site cadre necessary to effectively initiate and maintain the coordinated casualty collection, triage, pre-hospital victim care and survivor support operations.

3.4.2 The Mass Casualty Incident Operations

In stark contrast to the suppression operation's minimal equipment resource demand on the mutual aid system, the magnitude of the resulting EMS-fire casualty management operation drew upon substantial personnel and equipment resources from throughout in the state. The incident management also benefited from the mutual aid plan's everyday use of fill-in/coverage assignments and direct incident support by and for the EMS units of various departments. This is done in essentially the same fashion as the deployment of the suppression units and other specialized assets.

Initially, the incident site was strewn with numerous victims: many with obvious injuries were sitting on and in the surrounding cars, and some were on guard rails and snow banks, while others stood and milled about or lay on the ground. The immediate availability of shelter from the winter cold was afforded by the proximity of the Cowesett Inn just a few dozen meters across and down the street. Many of the uninjured survivors and walking-wounded migrated there spontaneously to flee the scene and seek/secure assistance. Given its on duty support staff, size, diverse facilities, configuration and cross-street location, the Inn readily became the primary triage and survivor assistance center at the scene.

As this incident's high casualty count became increasingly apparent, the mass casualty incident (MCI) operation began to unfold with dispatchers receiving multiple requests from the scene for "any available rescue" to respond. The casualty collection and care began with the first arriving rescue- ambulance units being besieged by those in need of care or requesting medical assistance for others. A number of these first-in units initially effectively served as field triage and care stations, transferring casualties to other units in and beyond the immediate fire ground congestion on Cowesett Avenue between The Station and the Cowesett Inn.

Initial command of the EMS operations evolved quickly as personnel and equipment became available. As EMS units and company officers arrived they began organizing the chaotic scene. The triage and care efforts that were initially attended by the first arriving EMS providers wherever the units were positioned on-scene began to center on the Inn and its immediate area. For much of the incident's duration, at least three distinct triage areas were operating simultaneously: one near The Station on Cowesett initiated by an officer and crew from Hopkins Hill FD from Coventry, one on the outside of the Inn at the front door established by a Cranston FD officer and crew, and another inside the Inn under the direction of a WFD officer.

As additional chief officers and crews from Warwick, Cranston and Coventry fire departments began to arrive, the management of the EMS operations evolved significantly. The needs and activities of the respective triage sections were afforded greater command cognizance through the use of an EMS liaison to the IC, a role filled by the Coventry FD Chief.

A Cranston FD deputy chief assumed the role of transportation coordinator and began staging units away from the immediate area of the Inn at a parking lot of a nearby restaurant. This action was initiated to reduce the congestion at the site and to better coordinate the loading and transfer of victims to regional

hospitals. The effective coordination of both incoming unit staging and on-scene activities was significantly compromised due to non-interoperable radio equipment between command elements and responding units, as mentioned earlier [1]. The communications challenges also materially hampered direct coordination with regional hospitals. As a result, the transportation officer was, more often than not, unable to communicate directly with the hospitals to ascertain their status and capabilities -- and therefore unable to direct units to the most appropriate medical facilities.

Less than two hours after the initial alarm, the MCI management effort had effectively organized multiple field triage and care locations as well as the in-door operations at the Cowesett Inn and the last of the casualties were transported. The wide scale ground transportation EMS evacuation of 186 casualties had been accomplished using nearly 40 fire department-based emergency medical services units, 20 private sector ambulances from a variety of commercial providers, and buses used to shelter and transport those with only minor injuries. More than 200 people may have been injured in the incident, most of whom were transported to medical facilities throughout the state by EMS providers and private vehicles.

3.4.3 The Law Enforcement Scene Security & Traffic Management Operations

Beyond their immediate response and assistance at the scene, the West Warwick Police Department (WWPD), the Warwick Police Department, the Coventry Police Department and other local agencies including the Rhode Island State Police personnel played key roles in managing and supporting the incident security, access and traffic management efforts necessary to effectively access, stage, deploy and permit egress by the significant numbers of rescue/ambulances (about 60 units) and all the other fire apparatus and emergency services units that responded. Their collective efforts assured the volume of EMS units had effective access to the scene and its adjacent staging areas. They also assured that the traffic management effort provided for the safe exit of emergency vehicles once they were loaded with victims and in route to area hospitals.

3.4.4 The Mass Fatality Recovery and Victim Identification Operations

The impact and consequence of such a significant number of fire casualties (both injured and killed) extended beyond the fire service organizations involved to also challenge the area's local law enforcement agencies, the State Police, the State Fire Marshal's Office, the State Medical Examiner's Office and other regulatory authorities. There were extraordinary informational, tactical and technical challenges requiring the coordination and contribution of virtually every agency involved. These included identifying uninjured survivors, those who had been EMS triaged and transported and to where, those who might still be missing, and those who were among the dead

These operations generally required two concurrent efforts; one to physically recover and identify the remains on site, and the other -- accomplished off-site at facilities conducive to conducting confidential interviews -- was to collect victim identification profiles from friends and relatives of those still unaccounted for.

The victim profiles included physical descriptions of the person such as sex, height, weight, hair and eye color etc., and any available information about what they had been wearing when last seen (such as clothing items and jewelry). This information was used to assist with subsequent identification efforts, including forensic examinations by the State Medical Examiner.

Both of these activities were accomplished with a regard for the privacy and dignity of the victims and their survivors. During the recovery of the physical remains, efforts were made to avoid additional trauma to the deceased and to collect personal effects that might aid in the victim's identification. These actions

were accomplished while shielding the area from the view of bystanders. The collection of victim identification profiles was also handled discreetly, to the extent possible given the circumstances. Interviews were conducted in private and the information collected was treated as confidential.

The victim identification processes, both investigatory and forensic, continued through the weekend and until the last fatality was positively identified on Tuesday evening, Feb. 25. Completion of the victim recovery and identification operation effectively brought a close to the response efforts, with the exception of the on-going fire investigation.

3.4.5 Post-fire Investigation Operations

Major fires, especially those producing a significant number of injuries and/or fatalities, often involve concurrent investigations by various local and state law enforcement agencies and other regulatory authorities, as occurred in this case. By law, in most jurisdictions, fire losses in general -- and particularly those resulting in serious injuries and/or deaths -- are investigated to determine at the very least, the location of the origin of each fire and its cause (natural, accidental, criminal, etc.). Depending on a variety of other factors, they also may be the subject of other inquiries, reviews, or hearings by a range of regulatory/technical authorities. The sooner that relevant information regarding witnesses/persons involved and specific facts can be collected, the more effective the initial incident information management effort and subsequent investigations are likely to be. Law enforcement agencies typically play the key role in this aspect of overall incident management security and in supporting the public's information needs.

The RI State Fire Marshal was on the scene of this multiple fatality fire within an hour of the IC's request for his assistance. Even though the origin and cause of this fire was known (actually captured on video-tape) the State Fire Marshal's Office conducted an investigation to document the loss, and to determine the parties responsible for the catastrophic loss of life and injury. These efforts were conducted in conjunction with local authorities, primarily WWPD and WPD although other authorities (including the RI State Police) participated substantially.

Owing to the magnitude of the incident, the State Attorney General's Office oversaw and directed various aspects of the inquiry. The Warwick PD also played a key role by establishing and staffing an office dedicated to assembling investigative reports and related information.

Post-incident investigation is part of the emergency response function. The subsequent investigative efforts are normally necessary to determine the origin and cause of the fire and to ascertain if the circumstances of the incident warrant the filing of criminal charges, the issuance of notice of regulatory violations, and legal actions (such as condemnation orders) to protect the public safety and to enforce laws and regulations. This typically involves local and state agencies working in collaboration with each other, as was the case in the investigation of The Station nightclub fire.

A number of Federal agencies responded after the fact to The Station nightclub fire. At the request of the State's Attorney General, the Bureau of Alcohol, Tobacco, and Firearms (ATF) provided direct technical assistance to the AG's investigation. The U.S. Occupational Safety and Health Administration conducted its own investigation due to its jurisdiction over worker safety and health [3]. The Office of Domestic Preparedness in the Department of Homeland Security was interested in how the community responded to this mass casualty event [1]. The National Institute of Occupational Safety and Health was not involved because there were no firefighter deaths.

3.5 OBSERVATIONS

The use of standard Incident Command structures and practices facilitated the concurrent fire suppression and mass casualty incident management operations. The early involvement of the EMS teams within the overall IC effort allowed the chief officers directing the EMS operation to focus on their casualty care and management challenges and to enable the fire suppression command forces to direct victim rescue and extinguishment efforts.

As is common in wide-area mutual aid responses, various responding agencies/units were unable to establish or maintain effective voice communications with IC. The Incident Commander's ability to effectively apply the available resources is critically dependent upon wireless voice communications with the responding units. The need for effective communication systems and equipment (e.g., interoperable with multiple common channels and the ability to handle a large amount of traffic) at large-scale events cannot be overstated.

The arrival time of WWFD's first due units (Engine 4 & Ladder 1) of the initial response assignment was within the four minute objective specified in NFPA Standard 1710 [5]. The model standard further suggests that the remainder of the first full alarm assignment should arrive within eight minutes. The achievement of the latter objective could not be confirmed from the information available to this investigation.

WWFD's fire apparatus staffing of the first full alarm assignment was half of the firefighter staffing recommended by NFPA Standard 1710, which suggests a minimum of four personnel on both engine and truck companies. Had WWFD apparatus staffing been consistent with the model standard at least ten additional firefighters would have been available to more expeditiously establish water supply to the suppression units, establish master stream operations from the first arriving ladder/truck company, and support victim rescue and casualty care operations.

3.6 REFERENCES FOR CHAPTER 3

[1] "Rhode Island -- The Station Club Fire After-Action Report," Office of Domestic Preparedness, Department of Homeland Security, October 2004.

[2] Crowley, C.F., The Station Nightclub Disaster - A survivor's story: Saved by a pileup; *Providence Journal*. Providence, R.I.: Mar 10, 2003. pg. A.01

[3] Occupational Safety and Health Administration Citation and Notification of Penalty, dated August 19, 2003 based on inspection # 304991086.

[4] *NFPA 1500, Standard on Fire Department Occupational Safety and Health Program,* National Fire Protection Association, Quincy, MA, 2002.

[5] *NFPA 1710, Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments,* National Fire Protection Association, Quincy, MA, 2001.